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"ACOUSTICAL and ENVIRONMENTAL CONSULTING"

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December 19, 2009

County of San Diego
 Department of Planning and Land Use
 c/o Crew Engineering and Surveying
 Attention: Ronald Ashman
 5725 Kearney Villa Road, Suite D
 San Diego, California 92123
 858-571-0555

Job #A70306N2

SUBJECT: RESPONSE TO THIRD ITERATION REVIEW OF OAKMONT II MAJOR SUBDIVISION, TENTATIVE MAP 5421; ER 05-14-003

This letter is in response to your letter of December 10, 2008, concerning the third iteration review of the above-referenced project. The minor change to the report has been provided, and previous ~~strikeout~~/underlines have been removed. This letter references location and response to the requested change(s) indicated on your letter.

Italics are added to indicate County of San Diego Staff comments.

Noise Analysis

Staff has reviewed the preliminary grading plans and Acoustical Analysis Report prepared by Eilar Associates dated October 6, 2008 and submitted on November 7, 2008. Staff is close to considering the noise report as complete with the exception of a minor comment. Minor additional information is required.

Comments to the Acoustical Analysis Report:

1. *On Section 5.1, page 7, first paragraph, the content states the following:*

"With the required sound attenuation barrier... project site will be impacted by traffic noise levels below 60 CNEL, in compliance with the County of San Diego... noise requirement."

Please revise this statement or include an additional statement specifying that Lots 2, 3 and 6 will be in conformance with the County General Plan Noise Element, Section Policy 4b and Definitions, Notes & Exceptions Section. Staff is requesting this minor edit to reinforce the noise report's conclusions and to ensure the project complies with the County Noise Element in its entirety.

Response: The requested edits have been completed.

Please call if you have any questions or require additional information.

EILAR ASSOCIATES, INC.


 Amy Lynn Hool, Acoustical Consultant

ACOUSTICAL ANALYSIS REPORT

**Oakmont II Major Subdivision
County of San Diego Tentative Map 5421; ER 05-14-003
Old Highway 80 and Flinn Springs Road
County of San Diego, California**

Prepared For

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Updated December 18, 2008

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APPENDICES

- A. Traffic Noise Model (TNM) Data and Results
- B. Section 36.410 (b) of the County of San Diego Noise Ordinance
- C. Pertinent Section County of San Diego Scoping Letter, Dated December 10, 2008

1.0 EXECUTIVE SUMMARY

The proposed project, Tentative Map (TM) 5421, consists of the subdivision of a 103 acre parcel into 20 lots for residential development. The project site is located at the intersection of Old Highway 80 and Flinn Springs Road, near the City of Lakeside, in the unincorporated area of the County of San Diego, California. Currently, the project site is vacant.

The primary noise sources in the vicinity of the project site include automobile and truck traffic noise from Interstate 8 (I-8) and Old Highway 80. Flinn Springs Road is a rural collector roadway with minimal traffic activity and is considered to have insignificant impact on the project site. Oak Creek Road is a local road with no available traffic data and is considered to have an insignificant impact on the site. Shanteau Drive and Snow View Drive are residential streets with minimal traffic activity and no available traffic data, and are considered to have an insignificant impact on the project site. Aircraft overflight noise associated with Gillespie Field Airport has been evaluated and has an insignificant noise impact on the project site as the site is located well outside of the 60 Community Noise Equivalent Level (CNEL) contour. The current calculated on-site traffic noise level at the southwestern corner of the property is 72.1 CNEL. The future (year 2030) on-site traffic noise level is expected to reach 75.4 CNEL at the same location.

Without mitigation, future exterior noise levels at TM 5421 will range from 75.4 CNEL at the southwestern most corner of the project site to 39.6 CNEL at the center of Lot 17. As a result, the proposed outdoor use areas of Lots 2, 3, and 6 will be impacted by noise levels in excess of 60 CNEL. At Lots 3 and 6, mitigation will be required in the form of a 5-foot high sound attenuation barrier. The proposed barrier at Lot 3 will run approximately 65 feet southeast along the southwest edge of the pad to the pad's southeastern corner, where it turns northeast and runs 60 feet. The proposed barrier at Lot 6 will run approximately 55 feet southeast along the western edge of the pad to the pad's southwestern corner, where it turns east and runs 65 feet. At Lot 2, mitigation will be required in the form of an 8-foot high sound attenuation barrier. The proposed barrier at Lot 2 will run approximately 65 feet southeast along the southwest edge of the pad to the pad's southeastern corner, where it turns northeast and runs 60 feet. This recommended sound barrier mitigation will reduce exterior noise levels throughout the project site to below 60 CNEL, the County of San Diego limit for outdoor use areas. No additional mitigation will be necessary.

The State of California and County of San Diego noise regulations require interior noise levels in habitable residential space to be at or below 45 CNEL. Typical residential construction generally achieves at least 15 dB of noise attenuation in rooms, even with windows open. Future traffic noise levels will be greater than 60 CNEL on some lots proposed within the residential subdivision. Due to the elevated exterior traffic noise levels, future interior noise levels may exceed the County of San Diego and State of California 45 CNEL limit for interior habitable residential space, with windows in an open position. An exterior-to-interior acoustical analysis will be necessary for TM 5421 at the time final building plans become available.

Temporary construction activities on the project site will consist solely of private roadway development and the installation of water supply lines. Noise generated from the temporary construction has been evaluated, and is considered to be controllable by standard construction noise management methods (see section 5.3). The limited nature of the site improvement, namely the disturbance of approximately 1% of the 103 acre parcel over the course of approximately one week, with no planned mass grading, represents a manageable noise impact to surrounding residences without mitigation. The location of Flinn Springs Road and Oak Creek Road, as well as site specific topographical features, provide additional distance from the site and noise shielding. These factors yield increased noise attenuation, and lessen temporary construction noise impacts to the surrounding properties.

It is determined that the temporary construction improvement activities will meet the San Diego County temporary construction noise limit of 75 dBA at the property lines, given reasonable maintenance of equipment and conservative planning of simultaneous equipment operation. Given the temporary construction noise limits at the relative property lines and beyond to the nearest residential structures, no mitigation is required for attenuating the brief construction noise impacts proposed for the project site.

2.0 INTRODUCTION

This acoustical analysis report is submitted to satisfy the acoustical requirements of the County of San Diego for Tentative Map approval. Its purpose is to assess noise impacts from nearby roadway traffic and aircraft overflight and to identify project features or requirements necessary to achieve exterior noise levels of 60 CNEL or less at outdoor usable areas, in compliance with the County of San Diego noise regulations. Feasibility of interior noise mitigation will also be addressed.

All noise level or sound level values presented herein are expressed in terms of decibels, with A-weighting to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol L_{EQ} , for a specified duration. The CNEL is a 24-hour average, where sound levels during evening hours of 7:00 p.m. to 10:00 p.m. have an added 5 dB weighting, and sound levels during nighttime hours of 10:00 p.m. to 7:00 a.m. have an added 10 dB weighting. This is similar to the Day-Night sound level, L_{DN} , which is a 24-hour average with an added 10 dB weighting on the same nighttime hours but no added weighting on the evening hours. Sound levels expressed in CNEL are always based on A-weighted decibels. These metrics are used to express noise levels for both measurement and municipal regulations, for land use guidelines, and for enforcement of noise ordinances. Further explanation can be provided upon request.

2.1 Project Location

The project site is located at the intersection of Old Highway 80 and Flinn Springs Road, near the City of Lakeside, in the unincorporated area of the County of San Diego, California. The Assessor's parcel number (APN) for the property is 396-020-13-00. The property has an overall site area of approximately 103 acres. Currently, the project site is vacant.

The subject site is currently zoned for residential use. Neighboring land use is primarily residential as is future land use. The project location is shown on the Thomas Guide Map, Figure 1, following this report. An Assessor's Parcel Map, Satellite Aerial Photograph, Topographic Map, Planned Land Use Map, and Satellite Aerial Photograph Showing Topography of this area are also provided as Figures 2 through 6.

2.2 Project Description

The proposed project, Tentative Map 5421 consists of the limited improvement and division of one 102.97 acre parcel into a 20-lot minor residential subdivision, with a minimum lot size of 2 acres. Vehicle access to the lots will be from new residential roadways accessed from Flinn Springs Road, Old Highway 80, and Oak Creek Road. New roadways will provide underlying joint utility trenches for utility access to adjoining lots, and water lines will be constructed. No mass grading will take place on site, with the intention of future residential development by individual lot owners.

3.0 ENVIRONMENTAL SETTING

3.1 Existing Noise Environment

The primary noise sources in the vicinity of the project site include automobile and truck traffic noise from I-8 and Old Highway 80, adjacent to the project site on the south and east, respectively. Flinn Springs Road is a rural collector roadway with approximately 2,000 Average Daily Trips (ADT) and is considered to have insignificant impact on the project site. Oak Creek Road is a local road with no available traffic data, and is also considered to have an insignificant impact on the site. Shanteau Drive and Snow View Drive are residential streets with minimal activity and no available traffic data, and are considered to have a negligible impact on the project site. Noise associated with aircraft overflight operations from Gillespie Field Airport is insignificant as the project site is located well outside of the 60 CNEL airport noise contours. No other noise source is considered significant.

I-8 is a four-lane, two-way major highway running east-west near the project site. The paved roadway width is approximately 155 feet, with a vegetated 75 foot center median. The posted speed limit is 65 mph. The actual speed of vehicles traveling on Flinn Springs Road, in the vicinity of the project site, is estimated to be 65 mph. Parking is not permitted on either side of the roadway. I-8, in the vicinity of the project site, currently carries a traffic volume of approximately 28,000 ADT for eastbound and 28,000 ADT for westbound traffic, <http://pele.sandag.org/T20> according to the San Diego Association of Governments (SanDAG) 2000 Traffic Volume Forecast, Series 10, as listed in the Transportation Forecast Information Center.

Old Highway 80 is a two-lane, two-way collector running southwest-northeast near the project site. The posted speed limit is 35 mph. The actual speed of vehicles traveling on Old Highway 80, in the vicinity of the project site, is estimated to be 35 mph. Parking is not permitted on either side of the roadway. Old Highway 80, in the vicinity of the project site, currently carries a traffic volume of approximately 4,000 ADT, according to SanDAG.

The current calculated on-site traffic noise level at the southwestern corner of the property is 75.4 CNEL. Current and future traffic volumes for the roadway sections near the project site are shown below in Table 1. For further roadway details and ADT traffic volumes, please refer to Appendix A: Traffic Noise Model (TNM) Data and Results.

Table 1. Overall Traffic Information				
Roadway Name	Speed Limit (mph)		Current ADT	Future (2030) ADT
	Current	Future		
I-8 (eastbound)	65	65	28,000	45,000
I-8 (westbound)	65	65	28,000	46,000
Old Highway 80	35	35	4,000	8,000

Truck percentages for I-8 were taken directly from the "Annual Average Daily Truck Traffic on the California State Highway System" document (Caltrans, 2003). Truck percentages for Old Highway 80 were obtained from the San Diego County Department of Public Works, Materials Division.

3.1.1 Measured Noise Level

An on-site inspection and traffic noise measurement were made on the afternoon of Monday, June 13, 2005. The weather conditions were as follows: clear skies, low humidity, temperatures in the high 80's with winds from the south at 5-10 mph. A "one-hour" equivalent measurement was made near the project property line at Flinn Springs Road. The microphone position was approximately five feet above the existing project site grade and approximately 21 feet from the centerline of Flinn Springs Road. Traffic volumes were recorded for automobiles, medium-size trucks, and large trucks during the measurement period. After a continuous 15-minute sound level measurement, there was no change in the L_{EQ} and results were then recorded. The measured noise level and related weather conditions are found below in Table 2. The calculated equivalent hourly vehicle traffic count adjustment and a complete tabular listing of all traffic data recorded during the on-site traffic noise measurement are found in Appendix A: Traffic Noise Model (TNM) Data and Results.

Table 2. On-Site Noise Measurement Conditions and Results	
Date	Monday, June 13, 2005
Time	1:45 p.m. - 2:00 p.m.
Conditions	Clear Skies, Winds from the south @ 5-10 mph, Temperature high 80's, Low Humidity
Measured Noise Level	70.3 dBA L_{EQ}

3.1.2 Calculated Noise Level

Noise levels were calculated for the site using the methodology described in Section 4.1 (see next page) for the location, conditions, and traffic volumes counted during the noise measurements. The calculated noise levels (L_{EQ}) were compared with the measured on-site noise level to determine if adjustments or corrections (calibration) should be applied to the traffic noise prediction model, Traffic Noise Model (TNM). Adjustments are intended to account for site-specific differences, such as reflection and absorption, which may be greater or lesser than accounted for in the model.

The measured noise level of 70.3 dBA L_{EQ} for Flinn Springs Road and I-8 was compared to the calculated (modeled) noise level of 70.5 dBA L_{EQ} , for the same conditions and traffic flow. As there was only a 0.2 dBA difference between the measured and the calculated noise level, and no adjustment was deemed necessary to model future noise levels for this location. Please refer to Table 3, below.

Table 3. Calculated versus Measured Traffic Noise Data				
Roadways	Calculated	Measured	Difference	Correction
I-8 and Flinn Springs Road	70.5 dBA L_{EQ}	70.3 dBA L_{EQ}	0.2 dB	none

3.2 Future Noise Environment

The future (year 2030) traffic volumes for I-8 and Old Highway 80 were provided by the San Diego Association of Governments (SanDAG), Traffic Forecast Information Center. This data was validated by Nick Ortiz, Associate Transportation Specialist for the County of San Diego Public Works Department. The future (year 2030) traffic volume for Old Highway 80 is projected to be 8,000 ADT. The projected (year 2030) traffic volume for eastbound I-8 is 45,000 ADT, and the

projected traffic volume for westbound I-8 is 46,000 ADT. The future (year 2030) traffic noise level at the southwestern corner of the project site is expected to increase to 75.4 CNEL.

The same truck percentages from the existing traffic volumes were used for future traffic volume modeling of both roadways. The roadway alignments and roadbeds are expected to remain the same for these sections of Old Highway 80 and I-8. For further roadway details and projected future ADT traffic volumes, please refer to Appendix A: Traffic Noise Model (TNM) Data and Results.

4.0 METHODOLOGY AND EQUIPMENT

4.1 Methodology

4.1.1 Field Measurement

Typically, a "one-hour" equivalent sound level measurement (L_{EQ} , A-Weighted) is recorded for at least one noise-sensitive location on the site. During the on-site noise measurement, start and end times are recorded, vehicle counts are made for cars, medium trucks (double-tires/two axles), and heavy trucks (three or more axles) for the corresponding road segment(s). Supplemental sound measurements of one hour or less in duration are often made to further describe the noise environment of the site.

For measurements of less than one hour in duration, the measurement time is long enough for a representative traffic volume to occur and the noise level (L_{EQ}) to stabilize; 15 minutes is usually sufficient for this purpose. The vehicle counts are then converted to one-hour equivalent volumes by using the appropriate multiplier.

Other field data gathered includes measuring or estimating distances, angles-of-view, slopes, elevations, roadway grades, and vehicle speeds. This data was checked against the available maps and records.

4.1.2 Roadway Noise Calculation

The Traffic Noise Model, Version 2.5 program released by the U.S. Department of Transportation was used to calculate the future daytime average hourly noise level (HNL) at various locations at the project site. The daytime average hourly traffic volume is calculated as 0.058 times the ADT, based on the studies made by Wyle Laboratories (see reference). The HNL is equivalent to the L_{EQ} , and both are converted to the CNEL by adding 2.0 decibels, as shown in the Wyle Study. Future CNEL is calculated for desired receptor locations using future road alignment, elevations, lane configurations, projected traffic volumes, estimated truck mixes, and vehicle speeds. Noise attenuation methods may be analyzed, tested, and planned with TNM, as required. Further explanation can be supplied on request.

4.1.3 Temporary Construction Noise Calculation

The equipment noise data and distance from the equipment to the receiver are used to calculate the sound pressure level due to divergence of sound waves in a free field. The noise attenuation, or insertion loss, achieved by a barrier is calculated as a single diffraction, by a thin barrier. This insertion loss is subtracted from the aforementioned sound pressure level to determine the sound pressure level with the barrier in place. Specific local atmospheric and environmental effects are

not considered in these calculations. Noise receiver elevations were modeled at 5 feet above ground level elevation.

4.2 Measurement Equipment

Some or all of the following equipment was used at the site to measure existing noise levels:

- Larson Davis Model 820 Integrating Sound Level Meter, Type 1, Serial # 0316
- Larson Davis Model CA200 Calibrator, Serial # 0292
- Hand-bearing magnetic compass, microphone with windscreen, tripods
- Distance measurement wheel, digital camera

The sound level meter was field-calibrated immediately prior to the noise measurement and checked afterward, to ensure accuracy. All sound level measurements conducted and presented in this report, in accordance with the regulations, were made with a sound level meter that conforms to the American National Standards Institute specifications for sound level meters ANSI S1.4-1983 (R2001). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

5.0 IMPACTS AND MITIGATION

5.1 Exterior

The exterior noise impacts at the project site are primarily the result of automobile and truck traffic traveling on I-8. Without mitigation or proposed project structures, the future 60 CNEL contour will be located approximately 790 feet north of the I-8 centerline, extending from east to west. The future 65 CNEL contour will be located approximately 710 feet north of the I-8 centerline, extending from east to west. The future 70 CNEL contour will be located approximately 325 feet north of the I-8 centerline, extending from east to west. For a graphical representation of these contours, please refer to Figure 7: Site Plan Showing Future Traffic CNEL Contours and Noise Measurement Location.

Without mitigation, future ground level exterior noise levels at TM 5421 will range from 75.4 CNEL at the southwestern-most corner of the project site to 39.6 CNEL at the center of Lot 17. As a result, the proposed outdoor use areas of Lots 2, 3, and 6 will be impacted by noise levels in excess of 60 CNEL. At Lots 3 and 6, mitigation will be required in the form of a 5-foot high sound attenuation barrier. The proposed barrier at Lot 3 will run approximately 65 feet southeast along the southwest edge of the pad to the pad's southeastern corner, where it turns northeast and runs 60 feet. The proposed barrier at Lot 6 will run approximately 55 feet southeast along the western edge of the pad to the pad's southwestern corner, where it turns east and runs 65 feet. At Lot 2, mitigation will be required in the form of an 8-foot high sound attenuation barrier. The proposed barrier at Lot 2 will run approximately 65 feet southeast along the southwest edge of the pad to the pad's southeastern corner, where it turns northeast and runs 60 feet. For a graphical representation, see Figure 8: Site Plan Showing Future Traffic CNEL at Outdoor Use Areas and Recommended Mitigation, and Figures 9 through 11: Details of Site Plans Showing Future Traffic CNEL with Proposed Sound Attenuation Barrier Mitigation at Lots 2, 3, and 6, respectively. With the required sound attenuation barriers, all planned outdoor use areas throughout the project site, including Lots 2, 3, and 6, will be impacted by traffic noise levels below 60 CNEL, and will remain in compliance with the County of San Diego General Plan Noise Element, Section Policy 4b and Definitions, Notes and Exceptions Section. Please refer to Table 4, showing unmitigated and

mitigated exterior noise levels at Lots 1-8. Lots 9-20 are located well outside of the 60 CNEL contour and are impacted by substantially lower traffic noise levels.

Table 4. Future Exterior CNEL with Proposed Mitigation						
Receiver	Location	Unmitigated CNEL		Sound Barrier Height (feet)	Mitigated CNEL	
		1 st Level	2 nd Level		1 st Level	2 nd Level
R-1	Lot 1 Outdoor Use Area	59.4*	61.8	N/A	N/A	N/A
R-2	Lot 2 Outdoor Use Area	67.8	71.3	8	60.0	71.1
R-3	Lot 3 Outdoor Use Area	60.6	65.6	5	54.3	65.2
R-4	Lot 4 Outdoor Use Area	46.7*	47.3	N/A	N/A	N/A
R-5	Lot 5 Outdoor Use Area	50.3*	51.6	N/A	N/A	N/A
R-6	Lot 6 Outdoor Use Area	61.7	63.8	5	55.0	63.4
R-7	Lot 7 Outdoor Use Area	54.6*	57.8	N/A	N/A	N/A
R-8	Lot 8 Outdoor Use Area	52.0*	57.8	N/A	N/A	N/A

*Unmitigated 1st Level CNEL is in compliance, no mitigation is required at this location.

Outdoor use areas at Lots 3 and 6 will comply with County of San Diego outdoor use regulations with five-foot high sound barrier walls. An eight-foot high sound barrier wall is required for Lot 2 in order to provide sufficient attenuation. Dimensions and positioning of sound barrier walls can be found in Figures 8 through 10: Details of Site Plan Showing Future Traffic CNEL and Sound Wall Positions at Lot 2, 3, and 6, respectively.

The required sound attenuation barriers may be a single sound wall in design or a combination of a sound wall atop an earthen berm. For the purpose of this analysis, all proposed sound attenuation barrier heights shall be based on the finished proposed pad grade elevation of each lot. A sound wall should be solid and constructed of masonry, wood, plastic, fiberglass, steel, or a combination of those materials, with no cracks or gaps, through or below the wall. Any seams or cracks must be filled or caulked. If wood is used, it can be tongue and groove and must be at least f-inch thick or have a surface density of at least 3½ pounds per square foot. Where architectural or aesthetic factors allow, glass or clear plastic may be used on the upper portion, if it is desirable to preserve a view. Sheet metal of 18-gauge (minimum) may be used, if it meets the other criteria and is properly supported and stiffened so that it does not rattle or create noise itself from vibration or wind. Any gate(s) proposed to be constructed in a sound wall must be designed with overlapping closures. The gate(s) may be of ¾-inch or better wood, solid-sheet metal of at least 18-gauge metal, or an exterior-grade solid-core steel door with prefabricated door jambs.

5.2 Interior

The State of California and County of San Diego noise regulations require interior noise levels in habitable residential space to be at or below 45 CNEL. Typical residential construction generally achieves at least 15 dB of noise attenuation in rooms, even with windows open. Future traffic noise levels will be greater than 60 CNEL at some of the proposed building facades. Due to the elevated exterior traffic noise levels at the project site, future interior noise levels in some residences may

exceed the County of San Diego and State of California 45 CNEL limit for interior habitable residential space, with windows in an open position. An exterior-to-interior acoustical analysis will be necessary for TM 5421 at the time final building plans become available to determine if special design consideration (i.e. enhanced window glazing and mechanical ventilation) is needed in order to achieve and maintain the noise attenuation necessary to comply with applicable interior building code standards.

5.3 Temporary Construction Noise

Section 36.410 (b) of the County of San Diego Noise Ordinance states that construction equipment shall not be operated so as to cause noise at a level in excess of 75 dBA for more than 8 hours during any 24-hour period, when measured at the property lines. The County of San Diego Noise Specialist, John Bennett, has requested that this regulation be interpreted as follows: the average eight-hour equivalent noise level of the construction equipment shall not exceed 75 dBA. Please refer to Appendix B: Section 36.410 (b) of the County of San Diego Noise Ordinance.

Table 5. Typical Construction Equipment Noise Levels			
Receiver	Range of Noise Level at 50 feet	Nominal Noise Level L_{eq} , at 50 feet	Height of Noise Source
Grader	73 to 95 dBA	85 dBA	8 feet
Paver	80 to 92 dBA	89 dBA	-
Roller, 180 HP	78 to 84 dBA	79 dBA	-
Trencher, 80 HP	76 to 86 dBA	82 dBA	-
Truck, 125 HP	76 to 85 dBA	80 dBA	-
Water Truck, 500 HP	79 to 88 dBA	84 dBA	3 feet

Construction activities should be limited to the following hours: 7 a.m. to 7 p.m., Monday through Friday (except legal holidays), and 7 a.m. to 6 p.m. on Saturday. There will be no construction activity on Sunday. Fences and gates will be installed as a control feature to limit after hours access to the construction site.

Temporary construction noise generated from the expected proposed construction on the project site, due solely to private roadway grading and the installation of a water supply line system, has been evaluated, and is considered to be controllable by standard construction noise management methods. The limited nature of the overall site improvement, namely the disturbance of approximately 1% of the 103 acre parcel over the course of approximately one week, with no planned mass grading, represents a manageable noise impact to surrounding residences without noise impact mitigation. The location of Flinn Springs Road and Oak Creek Road, providing distance between the project site and adjacent properties, as well as site-specific topographical features (see Figure 8), result in increased noise attenuation.

It is determined that construction improvement activities will meet the San Diego temporary construction noise limit of 75 dBA at all adjacent property lines, given reasonable maintenance of equipment and conservative planning of simultaneous equipment operation. Given the construction noise limits at the relative property lines and beyond to the nearest residential structures, no mitigation is required for attenuating the brief construction noise impacts.

Furthermore, equipment used in construction shall be maintained in proper operating condition, and engines shall be equipped with appropriate mufflers. With these recommendations, and controlled access to the site, it is expected that construction equipment noise levels will be at or below an average eight-hour equivalent noise level of 75 dBA, in compliance with County of San Diego regulations.

6.0 CERTIFICATION

The findings and recommendations of this acoustical analysis report are based on the information available and are a true and factual analysis of the potential acoustical issues associated with the proposed tentative map subdivision within the County of San Diego, California. This report was prepared by Amy Lynn Hool and Douglas K. Eilar.



Douglas K. Eilar
Principal/Senior Acoustical Consultant



Amy Lynn Hool, Acoustical Consultant

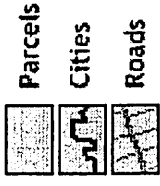
7.0 REFERENCES

1. 2001 California Noise Insulation Standards, effective 11/01/02, Based on 1997 Uniform Building Code, California Code of Regulations, Title 24.
2. 2001 California Building Code, Based on the 1997 Uniform Building Code, Chapter 12, Section 1203.3 - Ventilation
3. 2001 California Building Code, Based on the 1997 Uniform Building Code, Appendix Chapter 12, Division II - Sound Transmission Control, Section 1208 - *Sound Transmission Control*.
4. County of San Diego Noise Element to the General Plan.
5. Harris, Cyril M., Handbook of Acoustical Measurements and Noise Control, 3rd Edition, Acoustical Society of America, 1998.
6. Heeden, Robert A., Compendium of Materials for Noise Control, U.S. Department of Health, Education and Welfare, National Institute for Occupational Safety and Health, November 1978.
7. Irvine, Leland K., Richards, Roy L., Acoustics and Noise Control Handbook for Architects and Builders, Kreiger Publishing Company, 1998.
8. NBS Building Sciences Series 77, Acoustical and Thermal Performance on Exterior Residential Walls, U.S. Department of Commerce/National Bureau of Standards, November 1976.
9. San Diego Association of Governments (SanDAG) Transportation Forecast Information Center, 2004.
10. Western Electro-Acoustic Laboratory, Inc., 1711 Sixteenth Street, Santa Monica, California 90404, 213-80-9268, Sound Transmission Loss Vs. Glazing Type, Window Size and Air Filtration, January 1985. The research described in this report was prepared for the California Association of Window Manufacturers, 823 North Harbor Boulevard, Suite E, Fullerton, California 92632, 714-525-7088.

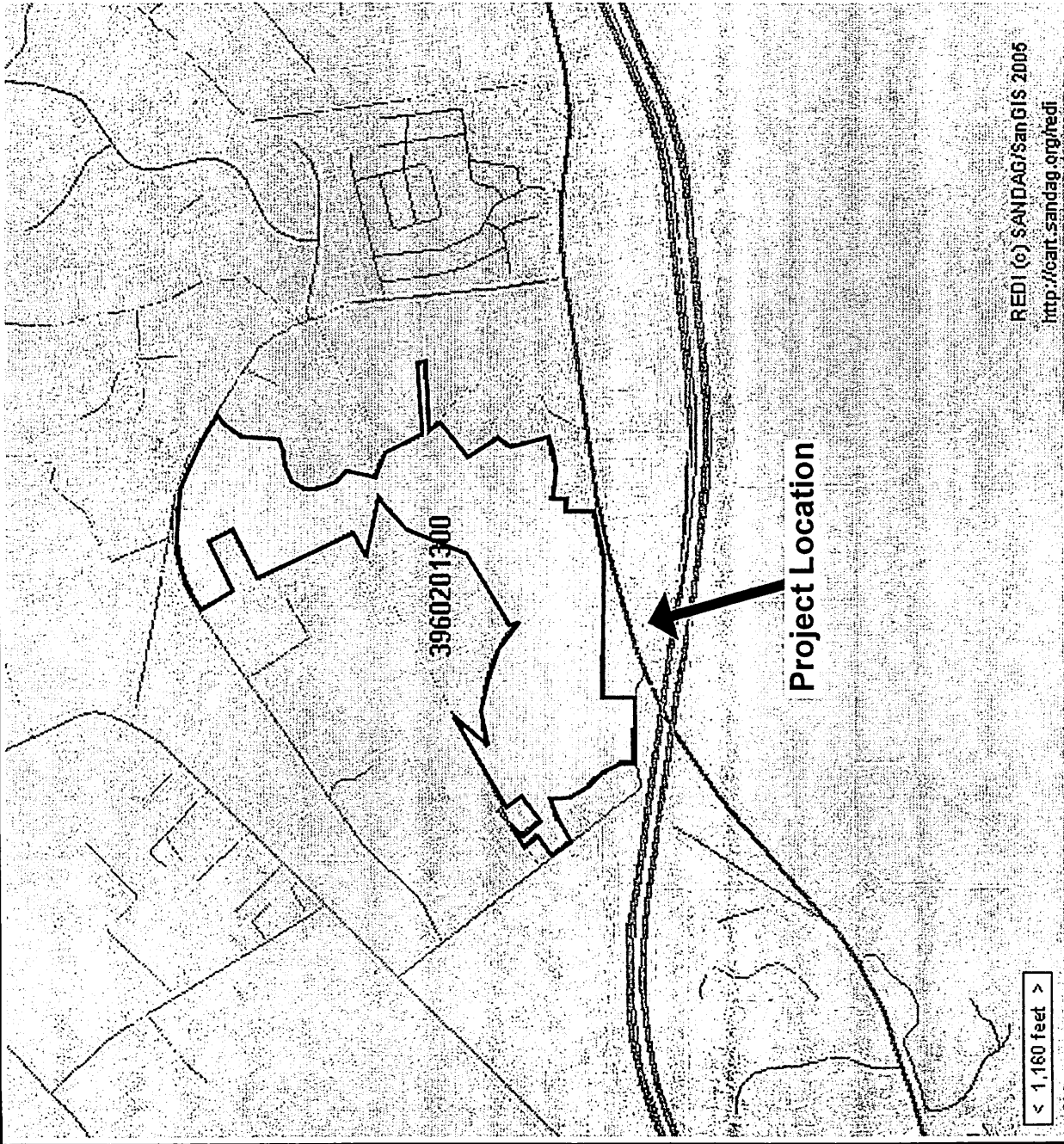
FIGURES

LEGEND

Reference Layers



APN: 396-020-13-00



Eilar Associates, Inc.
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Assessor's Parcel Map
Job # A70306N2

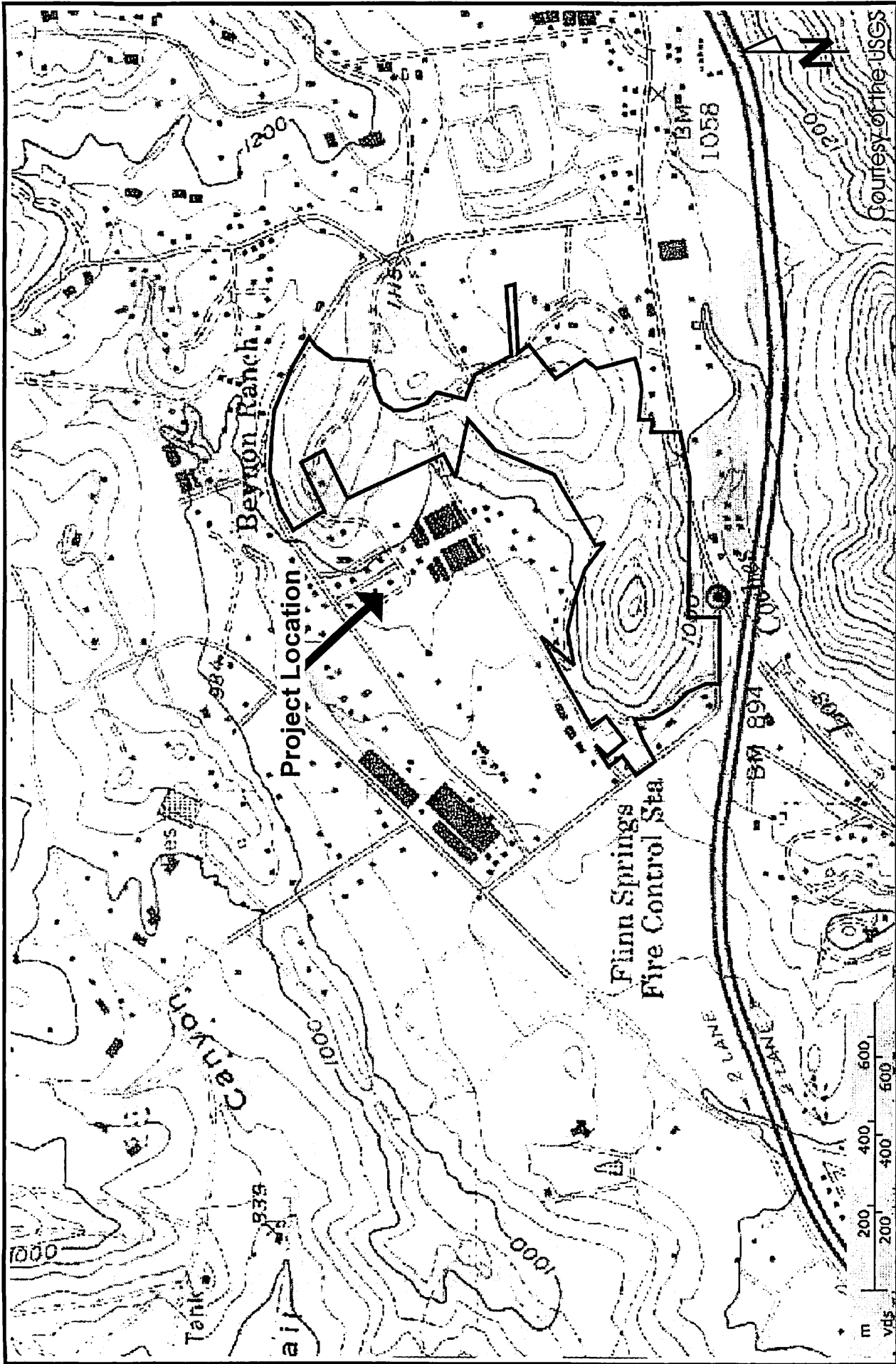
Figure 2



Eilar Associates, Inc.
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Satellite Aerial Photograph
Job # A70306N2

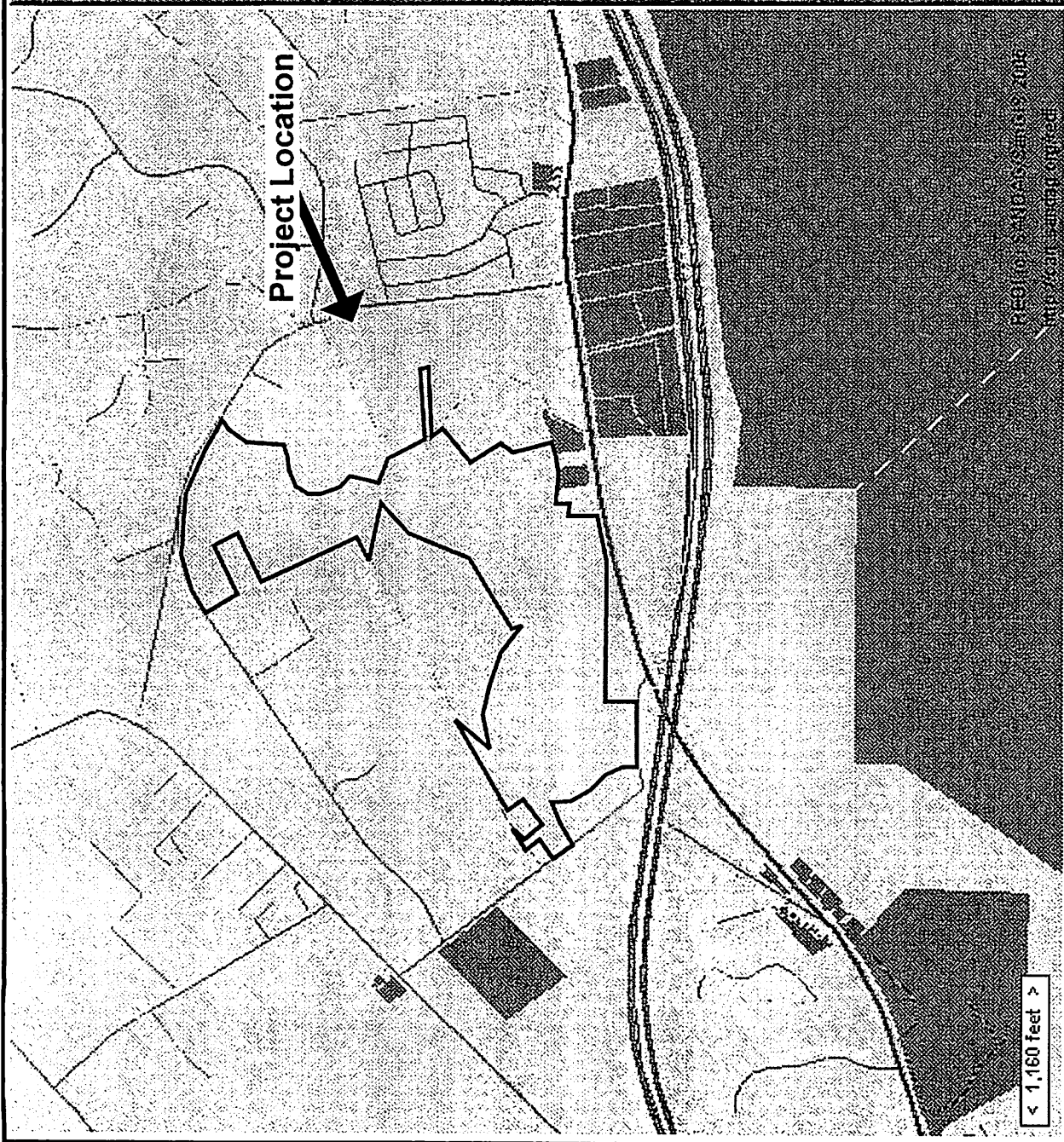
Figure 3



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 Encinitas, California 92024
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Topographic Map
 Job # A70306N2

Figure 4



LEGEND

- Planned Land Use**
- Residential
 - Commercial
 - Industrial
 - Public Facilities
 - Parks
 - Agriculture
 - Water
 - Reservations

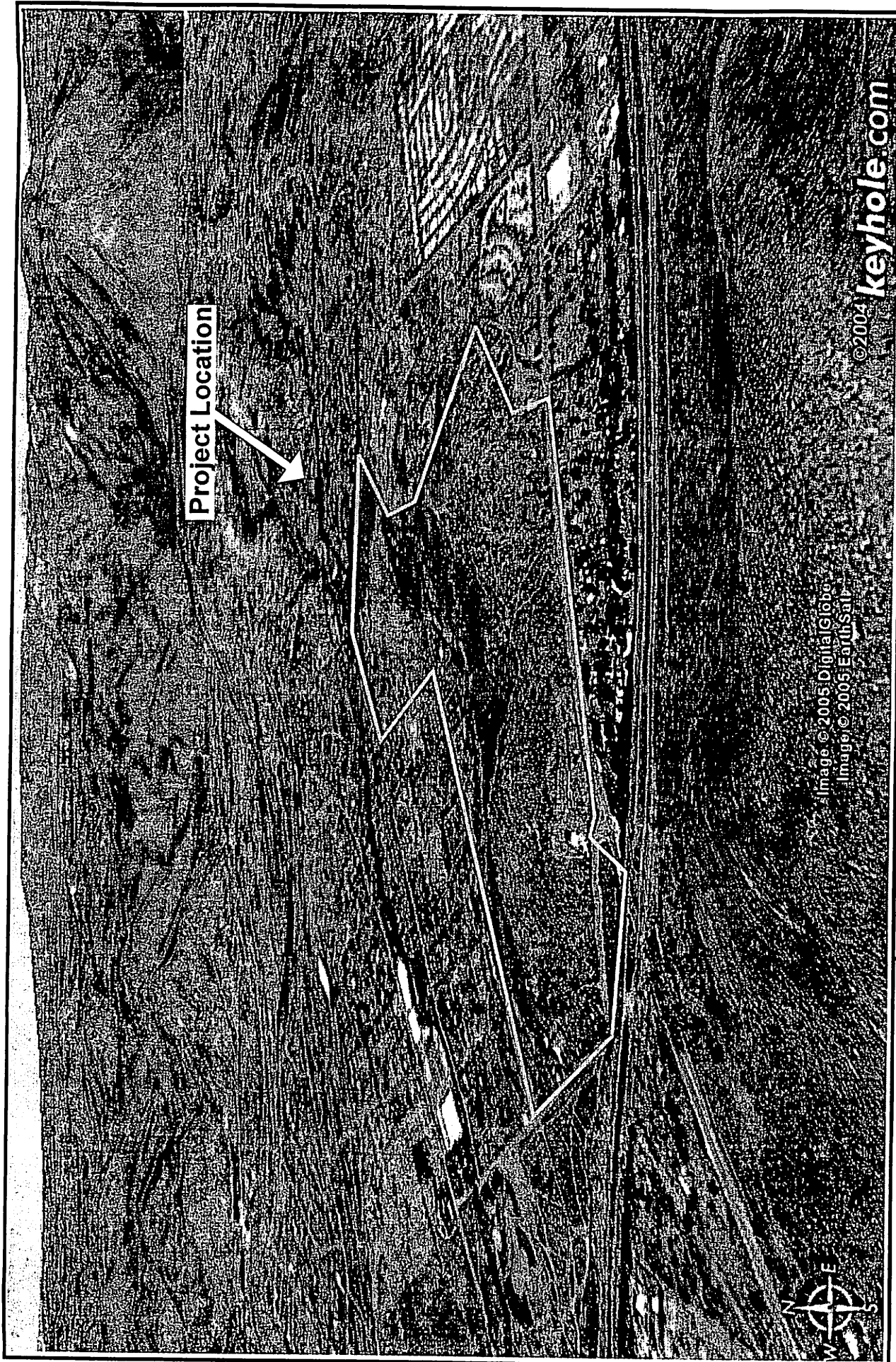
- Reference Layers**
- Parcels
 - Cities
 - Roads



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Planned Land Use Map
 Job # A70306N2

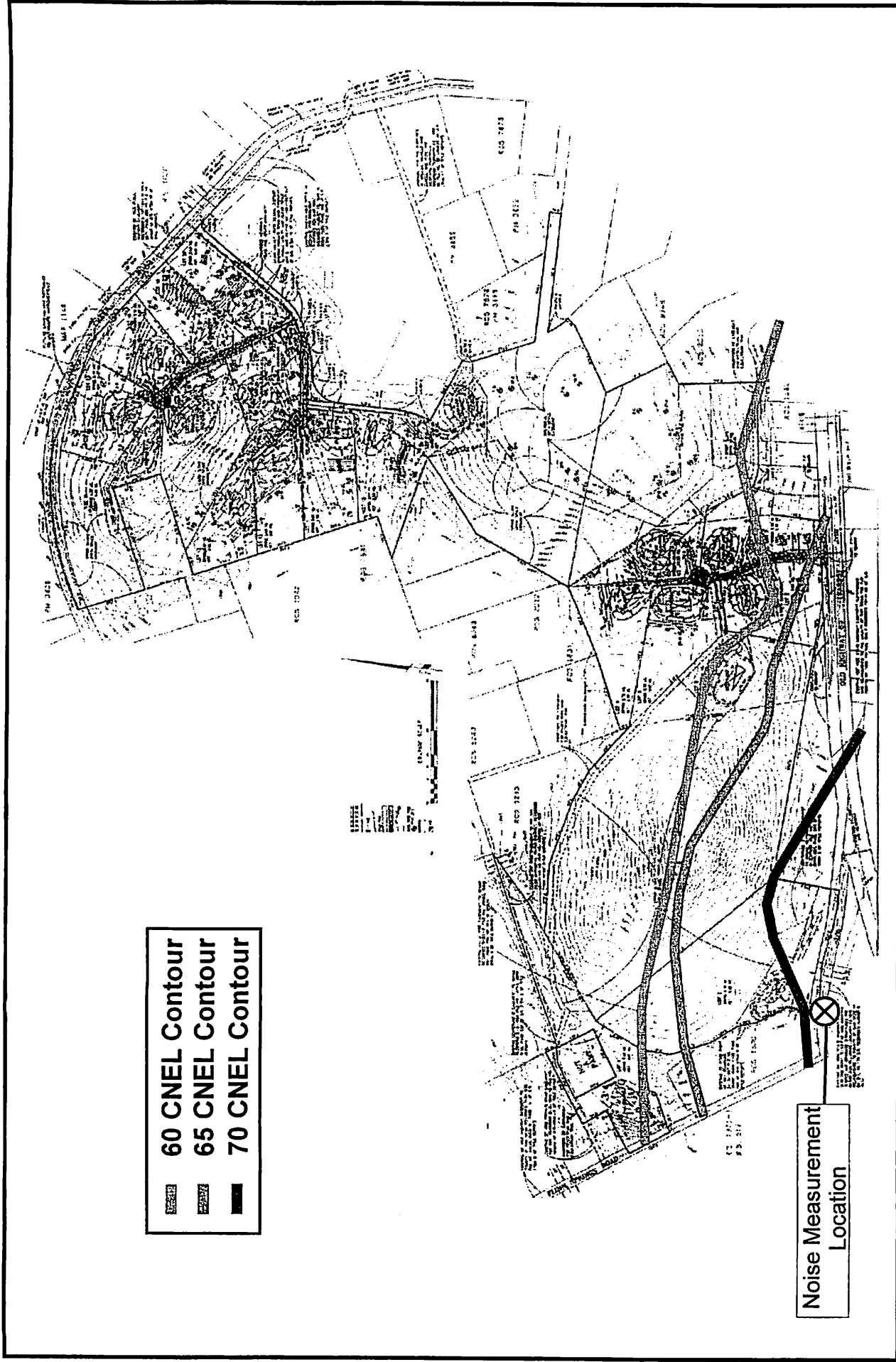
Figure 5



Satellite Aerial Photograph
Showing Topography
Job # A70306N2

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Figure 6



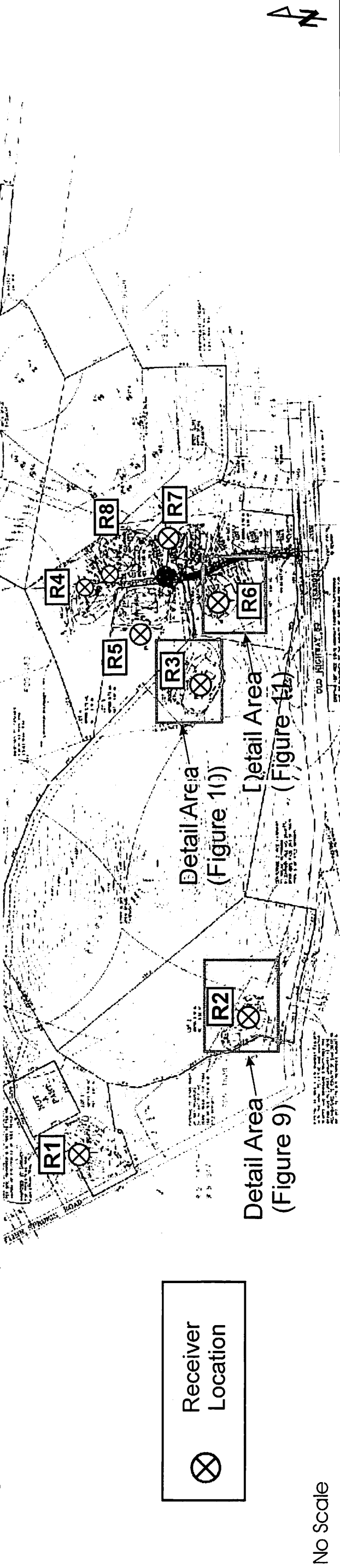
Site Plan Showing Future
Traffic CNEL Contours and
Noise Measurement Location
Job # A70306N2

Figure 7

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Table 4. Future Exterior CNEL with Proposed Mitigation							
Receiver	Location	Unmitigated CNEL		Building Height (feet) / N/A	Sound Barrier Height (feet)	Mitigated CNEL	
		1st Level	2nd Level			1st Level	2nd Level
R-1	Lot 1 Outdoor Use Area	59.4*	61.8	15 / N/A	N/A	56.9 / N/A	61.8 / N/A
R-2	Lot 2 Outdoor Use Area	68.7 / 67.8	70.9 / 71.3	15 / N/A	5 / 8	58.1 / 60.0	66.4 / 71.1
R-3	Lot 3 Outdoor Use Area	63.0 / 60.6	63.0 / 65.6	15 / N/A	N/A / 5	54.0 / 54.3	55.6 / 65.2
R-4	Lot 4 Outdoor Use Area	46.7*	47.3	15 / N/A	N/A	41.1 / N/A	43.0 / N/A
R-5	Lot 5 Outdoor Use Area	50.3*	51.6	15 / N/A	N/A	46.1 / N/A	48.6 / N/A
R-6	Lot 6 Outdoor Use Area	61.1 / 61.7	61.8 / 63.8	15 / N/A	N/A / 5	54.0 / 55.0	56.4 / 63.4
R-7	Lot 7 Outdoor Use Area	54.6*	57.8	15 / N/A	N/A	43.3 / N/A	50.7 / N/A
R-8	Lot 8 Outdoor Use Area	52.0*	57.8	15 / N/A	N/A	48.8 / N/A	55.3 / N/A

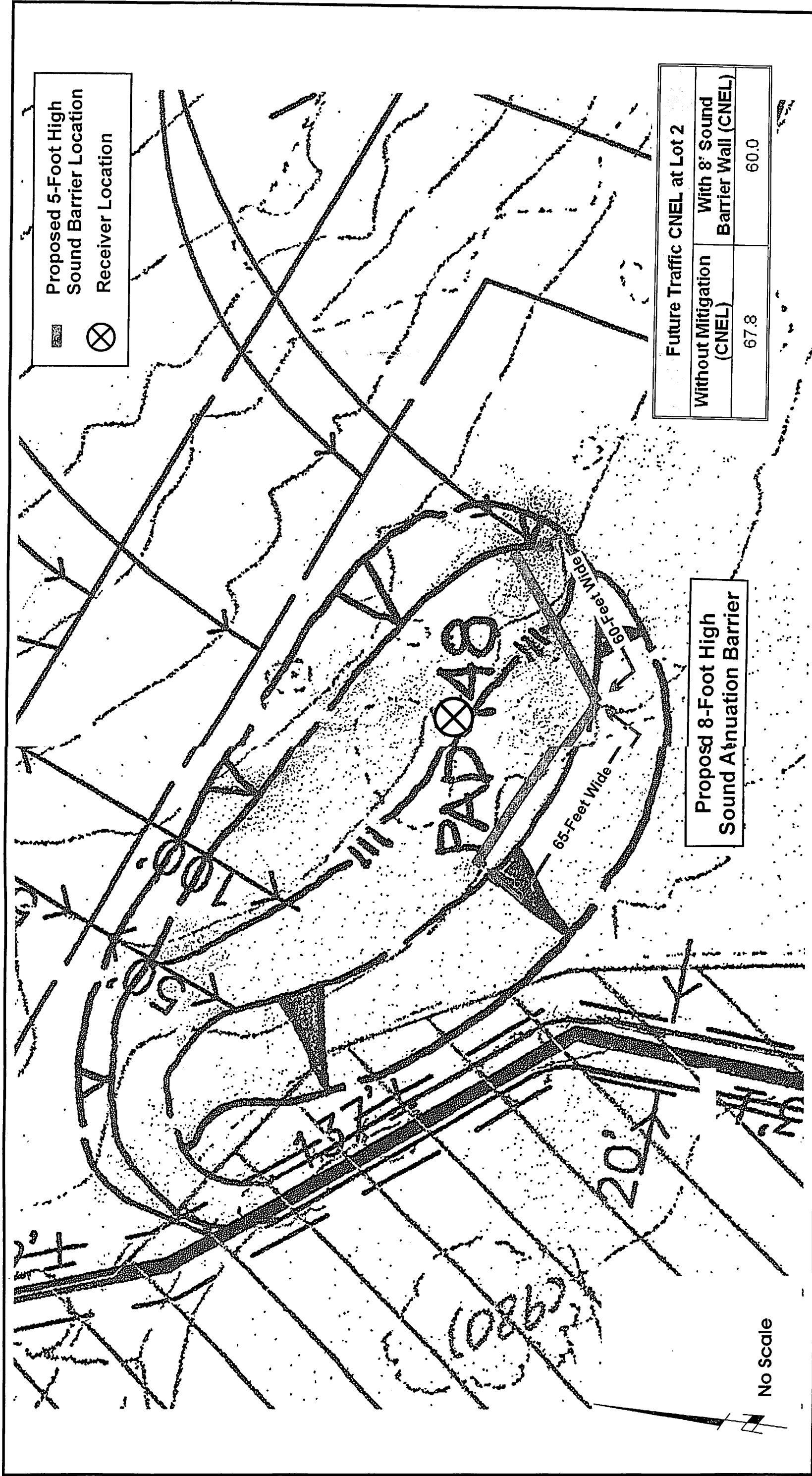
*Unmitigated 1st Level CNEL is in compliance, no mitigation is required at this location.

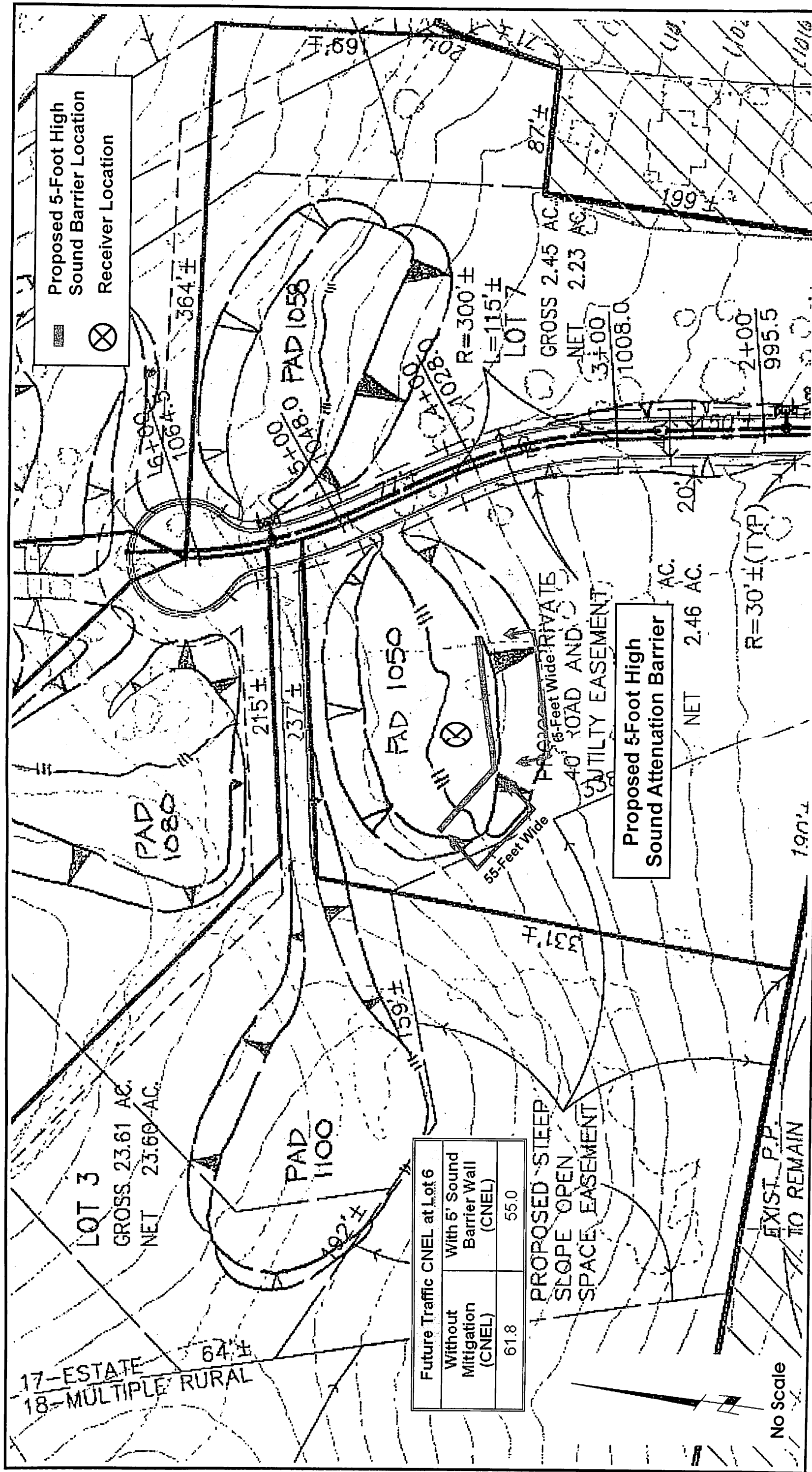


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Site Plan Showing Future Traffic CNEL at Outdoor Use Areas and Recommended Mitigation
Job # A70306N2

Figure 8





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**Detail of Site Plan Showing Future Traffic CNEL at Lot 6 and
Proposed 5-Foot High Sound Attenuation Barrier Position
Job # A70306N2**

Figure 11

APPENDIX A

Traffic Noise Model (TNM) Data and Results

INPUT: TERRAIN LINES

Oakmont II Subdivision

	58	1,169.7	376.6	1,100.00
	59	1,125.4	354.4	1,100.00
	60	1,138.6	310.1	1,100.00
	61	1,169.7	274.7	1,100.00
	62	1,245.0	230.4	1,100.00
Pad 6	63	1,457.6	243.7	1,050.00
	64	1,501.9	199.4	1,050.00
	65	1,568.4	199.4	1,050.00
	66	1,612.7	243.7	1,050.00
	67	1,599.4	288.0	1,050.00
	68	1,546.2	319.0	1,050.00
	69	1,501.9	310.1	1,050.00
	70	1,457.6	288.0	1,050.00
	71	1,457.6	243.7	1,050.00

Oakmont II Subdivision

C:\TNM\oakmont\Future Noise-No Mitigation

Oakmont II Subdivision

C:\TNM\oakmont\Future Noise-Sound Barriers

APPENDIX B

Section 36.410 (b) of the County of San Diego Noise Ordinance

noises from powered model vehicles measured at that distance in excess of the noise limits specified in Section 36.404 are prohibited.

SEC. 36.407. REFUSE VEHICLES & PARKING LOT SWEEPERS.

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or parking lot sweeper between the hours of 10 p.m. to 6 a.m. in or adjacent to any residential zone unless a variance has been applied for and granted pursuant to this chapter.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88)

SEC. 36.408. WATERCRAFT.

Violations for excessive noise of watercraft operating in waters under the jurisdiction of the County of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code.

SEC. 36.409. AIRPORTS.

All noise emanating from airport activities other than that produced by aircraft shall be subject to all of the regulations contained in this ordinance.

SEC. 36.410. CONSTRUCTION EQUIPMENT.

Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

(a) It shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday. Notwithstanding the above, a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. in compliance with the requirements of subdivision (b) of this Section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.

(b) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than 8 hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.

APPENDIX C
Pertinent Section County of San Diego
Scoping Letter
Dated December 10, 20008

Oakmont II Major Subdivision
(20 Lots); TM 5421

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December 10, 2008
Finalized December 15, 2008

Attachment I – Noise Comments

Staff has reviewed the preliminary grading plans and Acoustical Analysis Report prepared by Eilar Associates dated October 6, 2008 and submitted on November 7, 2008. Staff is close to considering the noise report as complete with the exception of a minor comment. Minor additional information is required.

Comments to the Acoustical Analysis Report:

1. On Section 5.1, page 7, first paragraph, the content states the following:

"With the Required sound attenuation barrier. . . project site will be impacted by traffic noise levels below 60 CNEL, in compliance with the County of San Diego. . . noise requirement."

Please revise this statement or include an additional statement specifying that Lots 2, 3 and 6 will be in conformance with the County General Plan Noise Element, Section Policy 4b and Definitions, Notes & Exceptions Section. Staff is requesting this minor edit to reinforce the noise report's conclusions and to ensure the project complies with the County Noise Element in its entirety.